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AUTHOR	Smock, Richard; Kelly, Edward
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ABSTRACT

This paper describes the instructional system operative at the department level at most American colleges and universities and indicates the function and relationship of development and evaluative activities within it. It suggests that many of the instructional systems within the university structure may be legitimately characterized as closed systems; that one trait of such systems is their limited use of external and internal feedback messages; that educational evaluation, whether formative or summative, must be characterized by the developer as part of a process that will lead to change; and that the initiation of this process occurs with the development of the client-problem statement. A heuristic model designed to assist the course developer who is employing an evaluative process within a closed, instructional system is then outlined to facilitate with this set of verbal generalizations the formation of the substantive problem statement. (AF)

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THE EVALUATION OF COLLEGIATE INSTRUCTION: HOW TO OPEN A CLOSED SYSTEM

by

Richard Smock and Edward Kelly

Office of Instructional Resources
University of Illinois
Urbana-Champaign, Illinois

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The instructional system that is operative at the department level of most American universities is notoriously insular and closed. My purpose today is to describe that system; to indicate the function and relationship of development and evaluative activities within it; and to describe the primary factors that compose a heuristic model of instructional development that will have application to it.

A system is an interrelated set of people, objects, or messages. Examples range from the broad, complicated ecological systems that describe fundamental relations in society and nature, to the equally complicated cybernetic system of the human organism. In addition to their complexity and comprehensiveness, these systems may be differentiated through a consideration of their stability, structure and function, goal parameters, and feedback channels.

When I say that a system is closed, what I suggest is that the goal parameters that define its boundaries and the feedback channels that it contains, and that are supposed to connect it to other systems, are not responsive to super and ancillary systems surrounding it.

By an instructional system I refer to a set of people, objects, and messages organized in structure and function to achieve a learning outcome. This concept subsumes several others that initiate in the cybernetic view of an individual's perceptive and introspective activity and range up through the tutorial, classroom, departmental and higher order supersystems. Its extension at any one of these levels would include varying distributions of general and specific system characteristics; such as, size, stability, specificity of function and goal parameters together with the extent and efficiency of internal and external feedback channels.

Viewed at the department level, for example, the instructional system that exists at many major universities includes numerous course level subsystems, and individual cybernetic systems. It is also laterally

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connected to ancillary support systems. Moreover, it forms one component within the broader administrative and academic structures of the university. Consequently, to construct a series of activities that will achieve change in this instructional system and move it from closed to open is an extremely complicated task, to say the least.

As I have suggested, one of the major characteristics of a closed instructional system is its limited use of external messages. The system that is stable and autonomous can afford to move without too much regard for the functions or messages of other ancillary or supersystems. Consequently, much of the project evaluation under ESEA, for example, has taken place as the result of a contractual relationship, a message to which the system had to respond. Contractual obligations require at least acquiescence, but they do not require interest in evaluation at the project level. Unfortunately, even the authority and force of mandate are denied the developer. As a result, where the outside evaluator may be able to deal from a position of contractual authority, the course developer must demonstrate the utility of his output to assure continuation of what must be a cooperative effort. This problem is clearly manifest at the course level of instruction within the university structure.

Fortunately, one of the spin-offs that may be developing from the increasing rate of student participation in curricular matters may be the use of course evaluation devices sponsored by independent student organizations. These together with more traditional methods of course rating, such as the Course Evaluation Questionnaire used at the University of Illinois, have begun to produce sufficient data pressure to cause the instructional system to attend to it, even if only to deny its utility. Yet in the denial itself, there is the recognition of a message received, and this event itself may become an opportunity for developers to achieve change.

And change is the crux of the thing, but not for its own sake. Scriven's distinctions between formative and summative evaluation were helpful to the evaluator when he tried to distinguish clearly his roles and goals, but possibly, their application is considerably limited when they are viewed along the continuum of change or in course development activity, for example. Other than as a chronological distinction, it is probably of small worth to separate the times when we are preparing instruction from those in which we are summarily assessing it. Despite the fact that the questions that mark these activities may differ, we want to be able to legitimately characterize the focus of both formative and summative efforts as one that leads to change. Unfortunately, to characterize educational evaluation, as it is commonly practiced today, as a directed change process would be unwarranted, and possibly misleading. Clearly, there are still important questions to be considered as to whether change is a legitimate goal of evaluation in general. But I think it safe to say that at the development level, the implementation of evaluative methodologies must be such that the output from the process will accommodate a system aimed at instructional change. Yet, when viewed as a goal of university offices of course development, where they exist, the substantive relations that connect evaluation and change have not been delineated.

There are, however, numerous methodologies that have application to the problem of opening a closed system. One might, for example, attempt to affect the rewards structure through an incentive program emphasizing instruction and assume that this process will culminate in the redefinition of the system goal parameters. Again, there is much to be said for direct attempts to manipulate a pivotal structural component, or for gaining power, even for inciting the public verbalization of student dissatisfaction and satisfaction with instruction, where it may exist.

It is my contention, as the result of considered experience, that ancillary systems designed to facilitate course development can capitalize on available feedback channels as primary and effective means for opening an instructional system. Practically speaking, what we are saying is that careful selection of information and its controlled insertion into the instructional system, when combined with over-riding concerns for the maintenance of a supportive relationship and credibility, will, over time, effect an alteration in the goal parameters of that system.

Given any developmental task, it may be a truism to point out that the type, quality, and amount of the information on the problem that will be required by different actors within the instructional system will vary according to their function in the system, and their personal predispositions. For example, what may prove appropriate feedback for the course level instructor in regard to his content tests, may be irrelevant to the department head whose concerns about testing within the courses, although not antagonistic to the instructor's, may emphasize other factors. Moreover, the selection of appropriate formats for the transfer of information vary from one element of the system to another. As a result, an accurate, well-documented report of a development process and recommendations, may function more as an artifact of the effort than as a message into a decision system.

It would seem that attention to the following questions should assist the developer in selecting the most appropriate feedback form and channel:

1. What is the problem or task?
2. What person or groups will need information for decisions on this problem?
3. What kind of information will they most readily attend to?
4. What feedback channels are presently available and open between the client and agent subsystems?
5. When must information be available to the persons or groups so that it can be utilized?
6. At what rate should information be fed into the client system?
7. What reportorial format will be most reliable, efficient, and enticing?

The effective functioning of all of these question indicators is clearly dependent on the answer to the first; that is, the development of a comprehensive statement of the developmental task. This must consist of a clear indication of the forces to which the effort must be responsive and the goals it must achieve. Accomplishing this task within a developmental framework should result in a description of the client's perceived problem; that is, his candid verbalization of the task.

Experience suggests that the process of achieving and focusing this verbal statement may be a fumble-some one, and what is more, the outcomes, although they may be more precise than the client's initial queries, will necessarily be heavily value-laden since they will reflect his normative theories. For example, what began as a statement of concern about the validity of a supposed high rate of negative feedback from students in basic courses, may be refined to a concern over the number of students enrolling as majors within a department. This concern of the client will be necessarily juxtaposed against the values of the agent or developer, who in this case, may judge the nub of the problem to be one of an instructional nature centered on the ability of staff to actively and affectively involve students in the learning process.

The possible variance between a client's problem perception and his "real" problem, and again between the normative theories of the client and the agent, leads to a second concern. If, as Stufflebeam has suggested, one of the purposes of evaluation is to gather information for decision making, it would seem encumbent upon the evaluator to distinguish between information and data. Although these two terms differ in several respects, a primary one seems to be that information must be characterized by its relevance to a client's perceived problem while data may be descriptive of any phenomenon. The determination of what is relevant information may be based on a client's consideration of what he is willing to make a decision on, while the agent's concern may be more clearly formulated along traditional lines of scientific inquiry and research findings.

The task of determining appropriate information is no where more clearly evident than it is when the role of the formal, external evaluator is compared to that of the internal developer who is employinging an evaluative process as a means to assist change. In the case of the external evaluator, the client buys the judgments and valuations of the agent at contract. As a result, the determination of what is appropriate information is primarily that of the evaluator. On the other hand, in the case of the developer, the additional constraints of status, autonomy, threat, and credibility require an agent-client interaction that will be less prescriptive and less judgmental, initially at least, than that connecting the external evaluator and his client.

There are several important distinctions that separate evaluation from research and development. These have received excellent attention in the literature, but I would like to emphasize that a prime difference between research and evaluation is the former's concern with generalizability and the latter's emphasis on description, judgment, and the development of information for the management of conflict. Although it may be unwise to mistake research for evaluation, it seems equally misleading to split evaluation and course development. The relationship between the two is far more intimate than the word formative suggests. Where the task is to develop new programs or to improve existing ones, one aim of the developer should be to employ and to instill the evaluative process in order to describe and judge the program, and to establish within the program the procedures that will insure evaluation continuation after the formal relationship with the development agent has ended.

Thus far we have suggested that many instructional systems within the university structure may be legitimately characterized as closed systems. In addition, I have pointed out that one trait of such systems is their limited use of external and internal feedback messages. Moreover, we have argued that educational evaluation, be it formative or summative, must be characterized, by the developer, as part of a process that will lead to change. We have also suggested that the initiation of this process occurs with the development of the client-problem statement, and we have sketched several pivotal aspects of this task.

I would now like to outline briefly a heuristic model designed to assist the course developer who is employing an evaluative process within a closed, instructional system. When I speak of a heuristic model, I am referring to a set of verbal generalizations that will facilitate substantive problem statement.

Conceptually, the relationship between a development agent and client locates within the larger boundary of a general system, which, for example, might be thought of as a university structure. The client and agent are representatives of their own subsystems within the larger boundary. (See Figure 1.) The genesis of a development task, or what we have termed a perceived problem, occurs within the client system as the result of a malfunction.

Although destruction of the equilibrium within the client system may take many forms, all such problems may be initially viewed as some type of blockage that is interferring with the functioning of the system. To apply some of Stake's terminology, we might say that a perceived problem is actually a recognition on the part of a client that there is a lack of congruence among the intents, observations, and standards by which he judges and makes decisions.

This is no strange phenomenon in instructional settings. We all have experienced the situation in which we have had expectations that were not fulfilled to a desired level. A good question to ask here is

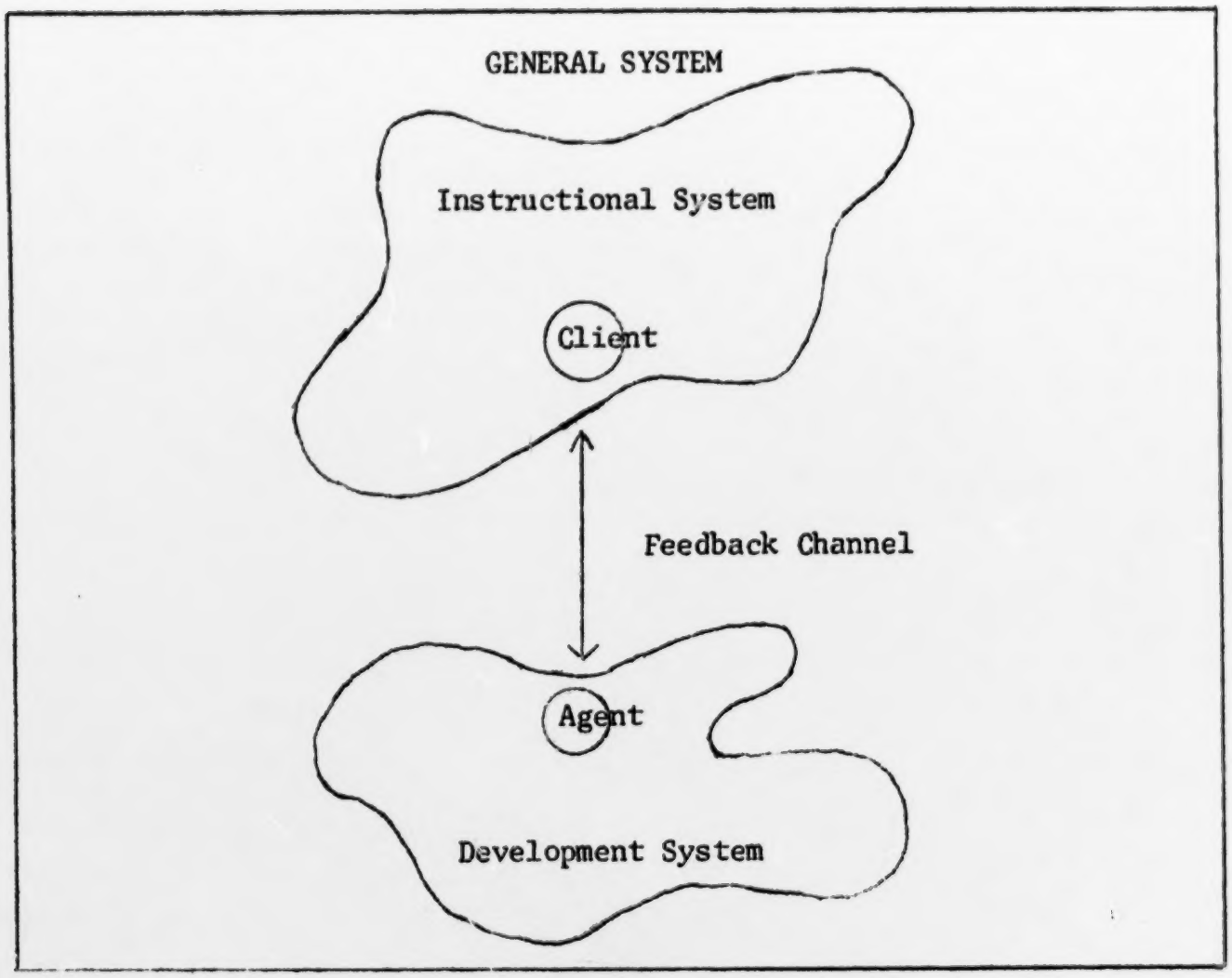

FIGURE 1

Initial Contact and Linkage Between an Instructional and a Development System

under what conditions does this dissatisfaction manifest itself to an outside agent, in this case to a course development agent? An applicable construct for describing these conditions is range of tolerance. Just as individuals utilize defense mechanisms that help them sustain their self-image, systems have built-in adaptive devices and shunts that allow them to absorb negative feedback and to initiate corrective action designed to restore equilibrium. As long as malfunction does not exceed the accustomed limits of extremity, the range of tolerance, the individual and system will contain the dissonance. It is at the point where dissonance has exceeded the established range of tolerance that the probability of messages to an ancillary agency is greatest.

One aspect of a closed system that challenges the course developer is its characterization by an implicit and traditional set of standards, so vague and so rooted that the system rarely requires an adjustment for congruence. Amitai Etzioni has suggested that it may be one of the roles of the development system to "define for the organization successively higher levels of satisfaction, by raising the standards of what [has been traditionally] considered 'all right.'" (Page 31.) In one sense, then, I am in favor of dissonance.

Once the initial contact between client and agent systems has occurred, the process of categorizing the problem begins. Simultaneously with the categorization of the problem, and partly as a result of the inter-relatedness of the systems' components, the client and agent systems become wedded in a stronger set of communication channels and networks as the development process continues. (See Figure 2.) It is at this point that my earlier remarks regarding feedback, type, format, and capacity take on their real significance. The developer may begin with a closed system, but once having achieved entrance into the message circuit of that system, he must be extremely sensitive to the nature of and the dissemination of the information he sends into it.

The mediating factors that connect the perceived and the categorized problem are located in client-agent interaction. Both actors represent a network of system goals and personal predispositions. (See Figure 3.) Moreover, when the actors are heavily imbued with the system orientation, the movement from perception of problem to categorization of problem may be very rapid, since the client will more than likely be seeking some procedural explanation or support. Such a case would be represented by a request to assist in the conversion of a hand scored test to a machine scored test. It may also be this system element in the client-agent interface that predominates when the relationship has occurred as the result of contractual obligations.

On the other hand, where the initiation of the client-agent relationship has occurred as the result of a recognition of poor congruence, and where support, acceptance, and utility are the criteria of continuance, the personal factor may predominate. In cases of strong individual dissatisfaction with instructional outcomes or personal feelings of inadequacy, for example, the development of the categorized problem will be

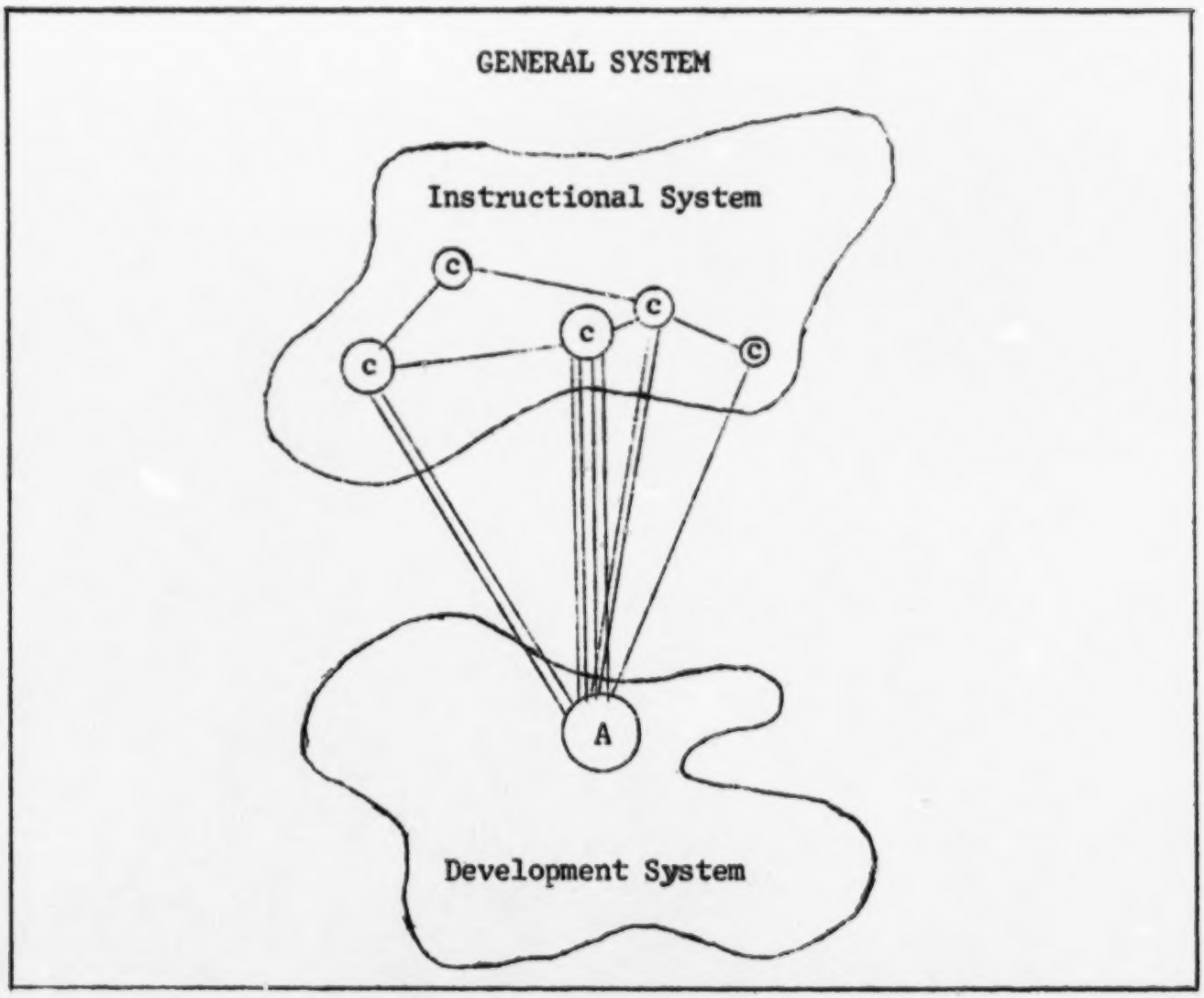

FIGURE 2

Linkage Between Instructional and Development
System During Involvement
In Complicated Task

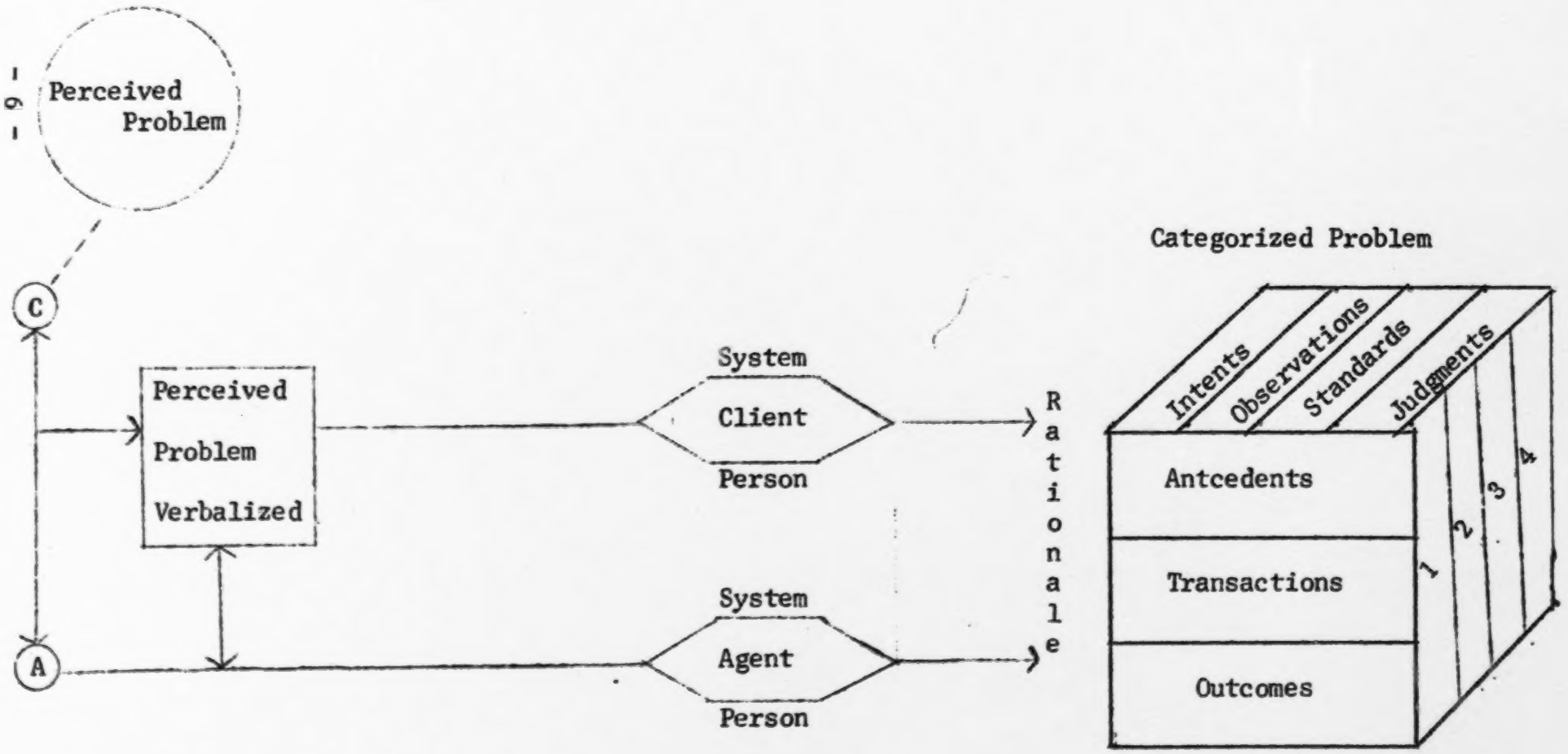

FIGURE 3

The Categorization of a Development Problem

significantly influenced by the personal aspect of this relationship. Moreover, I would like to suggest that in development activities what many times begins as a formal relationship between client and agent, frequently evolves into a highly personal interaction. It is within these channels that additional complaints, reservations, and standards held by the client may be revealed.

The outcomes of the interaction of these two primary mediating elements is the categorization of the real problem. When I say that the problem has been categorized, I mean that it has been located within an analytical framework that will facilitate the identification of broad problem areas and will also allow early specification of problem subsets, if there be any. Although designed for somewhat different purposes, Stake's classification system, developed in "The Countenance of Educational Evaluation" is generally applicable in this endeavor. Without developing, at this time, the relationships that define and bind this categorization, a brief example may help you to conceptualize this operation. (See Figure 4.)

Each problem may be seen as composed of a lack of congruence between a column of client intents, some client observations on the attainment of these intents, and a series of implicit or explicit standards by which judgments have been made. In addition, each problem may be viewed in another dimension through a consideration of the factors that may have led to the particular problem (antecedents), the processes or activities (transactions) that are connected to it, and the outcomes that were intended and/or observed. This matrix may be seen as a specified set of dependent statements organized for a particular problem. Since problems are interdependent, I would have you envision any number of overlapping matrices, one for each problem. In one sense, what I'd like to suggest is that the complexity of a development task is, in part, dependent on the number of contingent problems that have to be peeled or pierced in order to achieve change.

For example, what began not long ago, with an initial client phone contact revealed an instructor's judgment that his tests were not really measuring the outcomes of his course. Some days later, a lengthy interview showed that he also had judged that his department's examinations were laden with recall items, that his department was employing hand scoring testing procedures, and that key staff within the department did not see any utility in improving the department's testing program. What we have here is not one testing problem but four, more or less complicated and highly interrelated problems. Locating each of them as an individual layer in the problem dimension of the matrix facilitated the specification of the real problem and also aided our realization that to initiate the transfer of the department's testing program to an automated system might be ill-advised, if key faculty actually did not see the utility of a testing development attempt to begin with.

I would like to close on a note of encouragement and a suggestion of warning. I think there is encouragement in these remarks if only

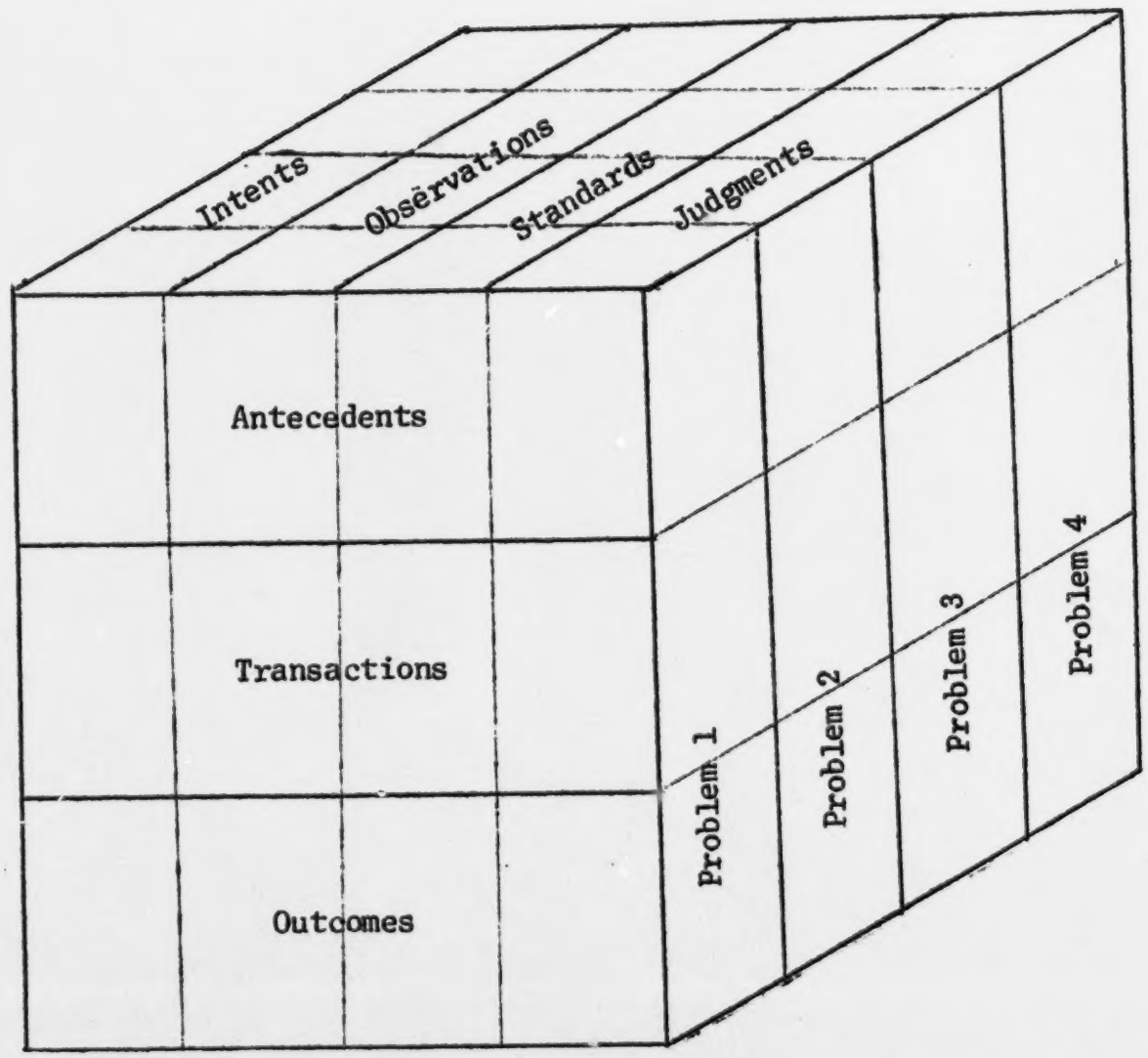

FIGURE 4

The Categorization of Development Problems

because I have employed the model and it seems to have worked effectively as the beginning of an approach to instructional improvement in a university structure. Unfortunately, although there may be numerous methodologies for instructional development, what we do not possess is a well-founded theory for selecting and ordering the scope and sequence of goals for a development system. Consequently, the involvement of such agencies frequently straps their available resources. What seems to occur is that entrance into the instructional system at any level, for any task, frequently leads to additional pursuits within the same course or department and forces an attenuation of resources. But possibly this is encouraging; possibly this signals some success.

REFERENCES

Etzioni, Amitai, Modern Organizations. Prentice Hall, Englewood Cliffs: 1964.

Getzels, J.W. "A Psycho-Sociological Framework for the Study of Educational Administration." Harvard Education Review 22: 235-246, Fall, 1962.

Scriven, Michael. "The Methodology of Evaluation." Perspectives of Curriculum Evaluation, AERA Monagraph Series on Curriculum Evaluation 1. (Edited by Robert Stake.) Chicago, Illinois: Rand McNally Company, 1967, pp. 39-83.

Stake, Robert E. "The Countenance of Educational Evaluation." Teachers College Record 68: 523-540; 1967.

Stufflebeam, Daniel and Westerlund, Stuart. The Evaluation of Context, Input, Process, and Product in Elementary and Secondary Education. Columbus, Ohio: The Ohio State University, Evaluation Center, 1967. (Mimeo.)